

<b>pJNC-COsp-opAQ</b>	
<b>Cat. No.</b>	P-104
<b>Gene/Insert name:</b>	Cytochrome <i>c</i> oxidase signal peptide sequence –Codon-optimized Aequorin
<b>Vector backbone:</b>	pCMV-JNC
<b>Vector type:</b>	Mammalian cells
<b>Backbone size w/o insert (bp):</b>	5,363
<b>Bacterial resistance:</b>	Ampicillin and neomycin
<b>Growth strain:</b>	JM83
<b>Growth temperature (°C):</b>	37
<b>Growth instructions:</b>	pJNC-COsp-opAQ is resistant to ampicillin and neomycin
<b>High or low copy:</b>	High copy
<b>Vector map:</b>	<a href="#">pJNC-COsp-opAQ</a>
<b>Coding sequence:</b>	<a href="#">Nucleotide sequence &amp; Amino acid sequence</a>
<b>Restriction enzyme list:</b>	<a href="#">Restriction enzyme sites of pJNC-COsp-opAQ</a>
<b>GenBank Accession No.:</b>	opAQ: <a href="#">LC006263</a>
<b>Size:</b>	10 µg
<b>Terms and Licenses:</b>	MTA
<b>Laboratory Reagent For Research Use Only</b>	

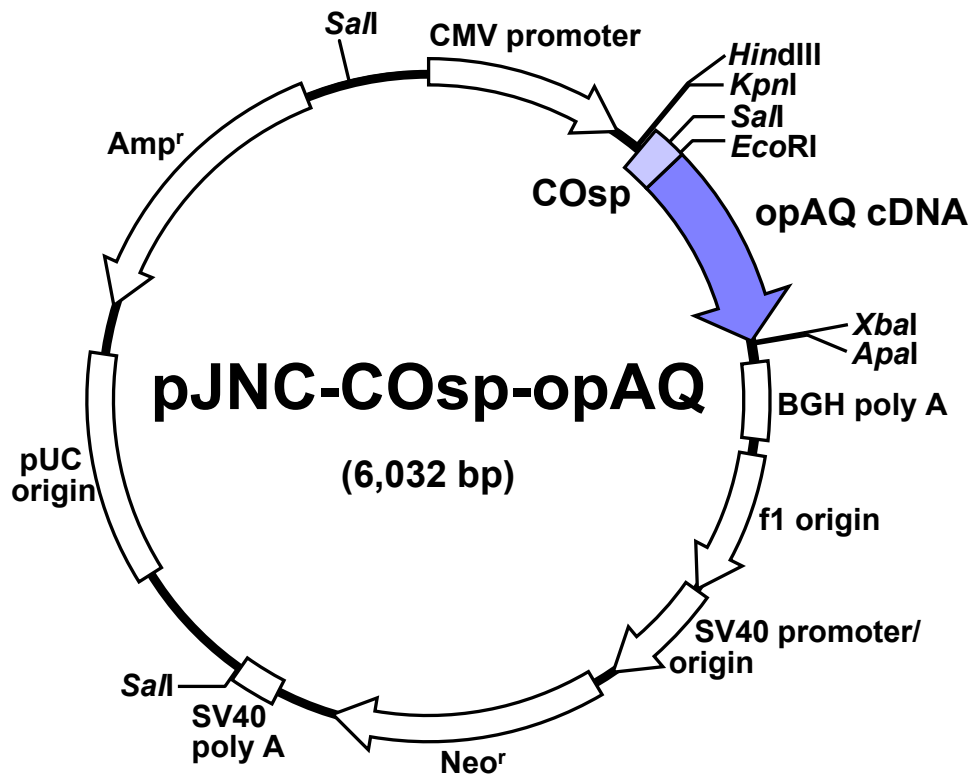
# Mammalian expression vector: Ca<sup>2+</sup>-Binding Photoprotein, Aequorin, with Mitochondria-Targeting Sequence

Cat. No. P-104

Name: pJNC-COsp-opAQ

Insert: Cytochrome c oxidase signal peptide sequence (COsp)  
-Codon-optimized Aequorin (opAQ) cDNAs

Vector: pCMV-JNC



• Feature for pJNC-COsp-opAQ:

Residue	Source	Comments
1-669	1-669	pCMV-JNC backbone
1-588	1-588	CMV promoter
632-651	632-651	T7 promoter
673-747	1-75	COX signal peptide sequence
769-1,335	97-663	Codon-optimized Aequorin ORF
1,339-6,032	752-5,445	pCMV-JNC backbone
1,355-1,372	768-785	Sp6 promoter
1,398-1,622	811-1,035	BGH polyadenylation sequence
1,668-2,096	1,081-1,509	f1 origin
2,101-2,444	1,514-1,857	SV40 early promoter and origin
2,506-3,300	1,919-2,713	Neomycin resistance gene (ORF)
3,474-3,604	2,887-3,017	SV40 early polyadenylation signal
3,987-4,660	3,400-4,073	pUC origin
4,805-5,665	4,218-5,078	Ampicillin resistance gene (ORF)

Ref.

- 1) Aequorin amino acid seq. & cDNA seq.: GenBank Accession No. AAA27719  
Inouye, S. *et al. Proc. Natl. Acad. Sci. USA* (1985) 82: 3154-3158.
- 2) Codon-optimized Aequorin DNA seq.: GenBank Accession No. LC006263  
Inouye, S. *et al. Protein Expr. Purif.* (2015) 109: 47-54

**Gene coding region (ORF: Cytochrome c oxidase signal peptide sequence/  
COsp-Codon-optimized Aequorin/opAQ)**

**Nucleotide sequence**

AAGCTTGGTACCACC**ATG**TCCGTCCTGACGCCGCTGCTGCTGCGGGGCTTGACAGGCTCGGCCCGTCGAC  
TCC**CAG**TGCCCGCGCCAAGATCCATTCGTTGCCG**GAAT**TCGTCAAGCTGACCAGCGACTTCGACAACCC  
CAGATGGATCGGCAGACACAAGCACATGTTCAACTTCCTGGACGTCAACCACAACGGCAAGATCAGCCTG  
GACGAGATGGTCTACAAGGCCAGCGACATCGTCATCAATAACCTGGGCGCCACCCCGAGCAGGCCAAGA  
GACACAAGGACGCCGTCGAGGCCTTCTTCGGCGGCCCGGCATGAAGTACGGCGTCGAGACCGACTGGCC  
CGCCTACATCGAGGGCTGGAAGAAGCTGGCCACCGATGAGCTGGAGAAGTACGCCAAGAACGAGCCCACC  
CTGATCAGAATCTGGGGCGACGCCCTGTTTCGACATCGTGGACAAGGACCAGAACGGCGCCATCACCCCTGG  
ACGAGTGAAGGCCTACACCAAGGCCCGCCGCATCATCCAGAGCAGCGAGGACTGCGAGGAGACCTTCAG  
AGTCTGCGACATCGATGAGAGCGGCCAGCTGGACGTGGACGAGATGACCAGACAGCACCTGGGCTTCTGG  
TACACAATGGACCCCGCTGCGAGAAGCTGTACGGCGGCCGCTCC**CTAATCTAGA**

**Amino acid sequence**

**M**SVLTPLLLRGLTGSARRL**P**V**P**RA**K**IHSL**P**EFVKLTSDFDNPRWIGRHKHMFNFDVNHNGKISLDEMVY  
KASDIVINNLGATPEQAKRHKDAVEAFFGGAGMKYGVETDWPAYIEGWKKLATDELEKYAKNEPTLIRIW  
GDALFDIVDKDQNGAITLDEWKAYTKAAGIIQSSDCEETFRVCDIDESGQLDVDEMTRQHLGFWYTMDP  
ACEKLYGGAVP\*

**Restriction enzyme sites of pJNC-COsp-opAQ**

Enzyme Name	Sequence	Count	Cutting Positions
AccI	GT!MKAC	5	724, 879, 3606, 3613, 5801
ApaI	GGGCC!C	1	1350
Asp718I	G!GTACC	1	665
BamHI	G!GATCC	0	-
BclI	T!GATCA	3	1080, 1386, 2476
BglIII	A!GATCT	1	5814
EcoRI	G!AATTC	1	764
EcoRV	GAT!ATC	0	-
HincII	GTY!RAC	5	4, 725, 844, 3614, 5802
HindIII	A!AGCTT	1	659
KpnI	GGTAC!C	1	669
MluI	A!CGCGT	0	-
NcoI	C!CATGG	3	380, 2332, 3067
NdeI	CA!TATG	1	254
NheI	G!CTAGC	0	-
NotI	GC!GGCCGC	0	-
PstI	CTGCA!G	1	2688
SacI	GAGCT!C	2	588, 1382
SalI	G!TCGAC	3	723, 3612, 5800
ScaI	AGT!ACT	1	5359
SmaI	CCC!GGG	1	2448
StuI	AGG!CCT	3	959, 1160, 2424
XbaI	T!CTAGA	1	1340
XhoI	C!TCGAG	0	-

Supplier	Contact us
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